NASA EMS

Building Blocks to Success

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Presentation Overview

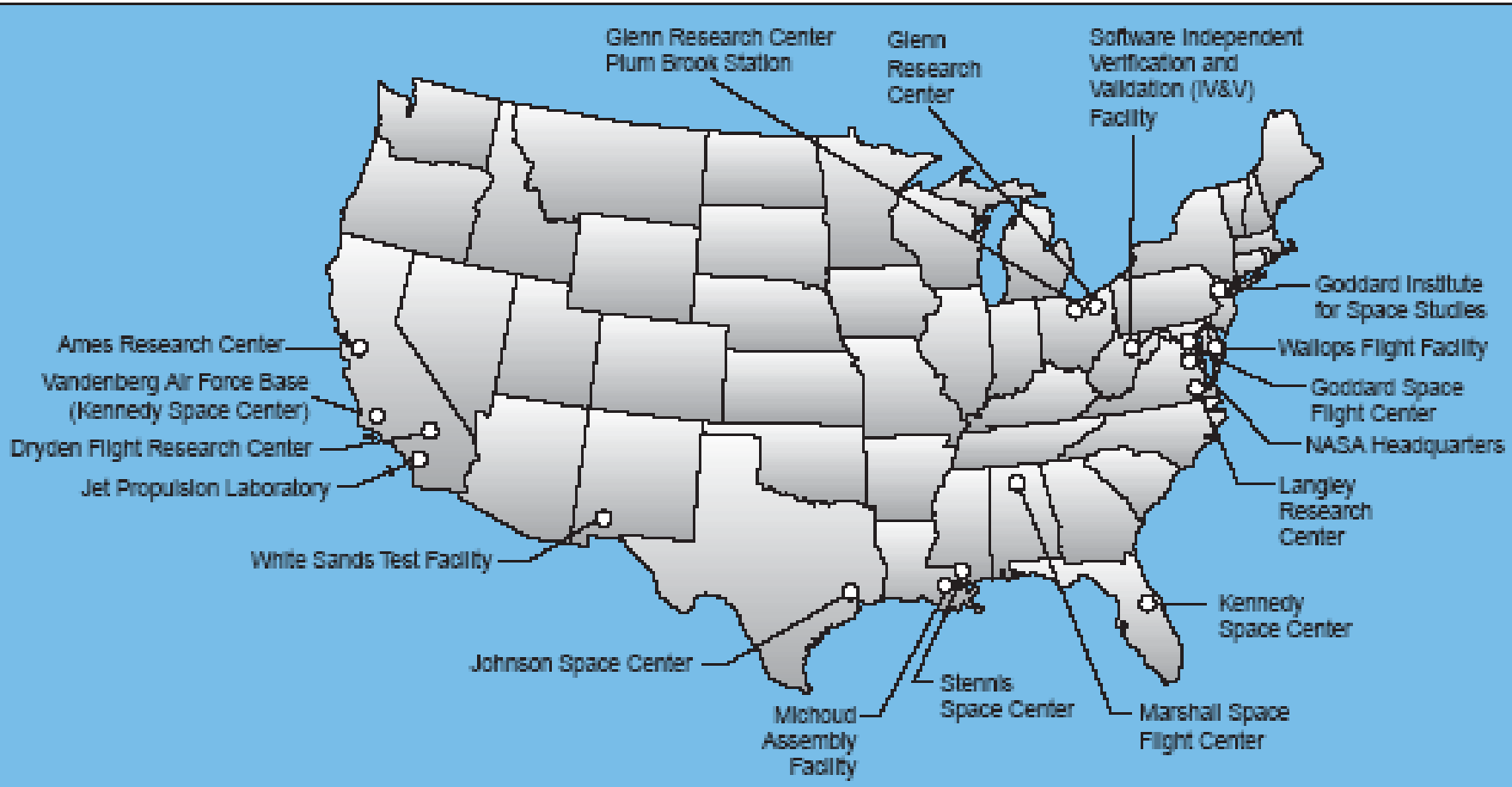
- **Background on NASA**
- **NASA EMS Approach/ Update**
- **Communication/ Training**
- **Continual Improvement by Design**

NASA MISSION

- To understand and protect our home planet
- To explore the Universe and search for life
- To inspire the next generation of explorers

… as only NASA can

NASA Organization

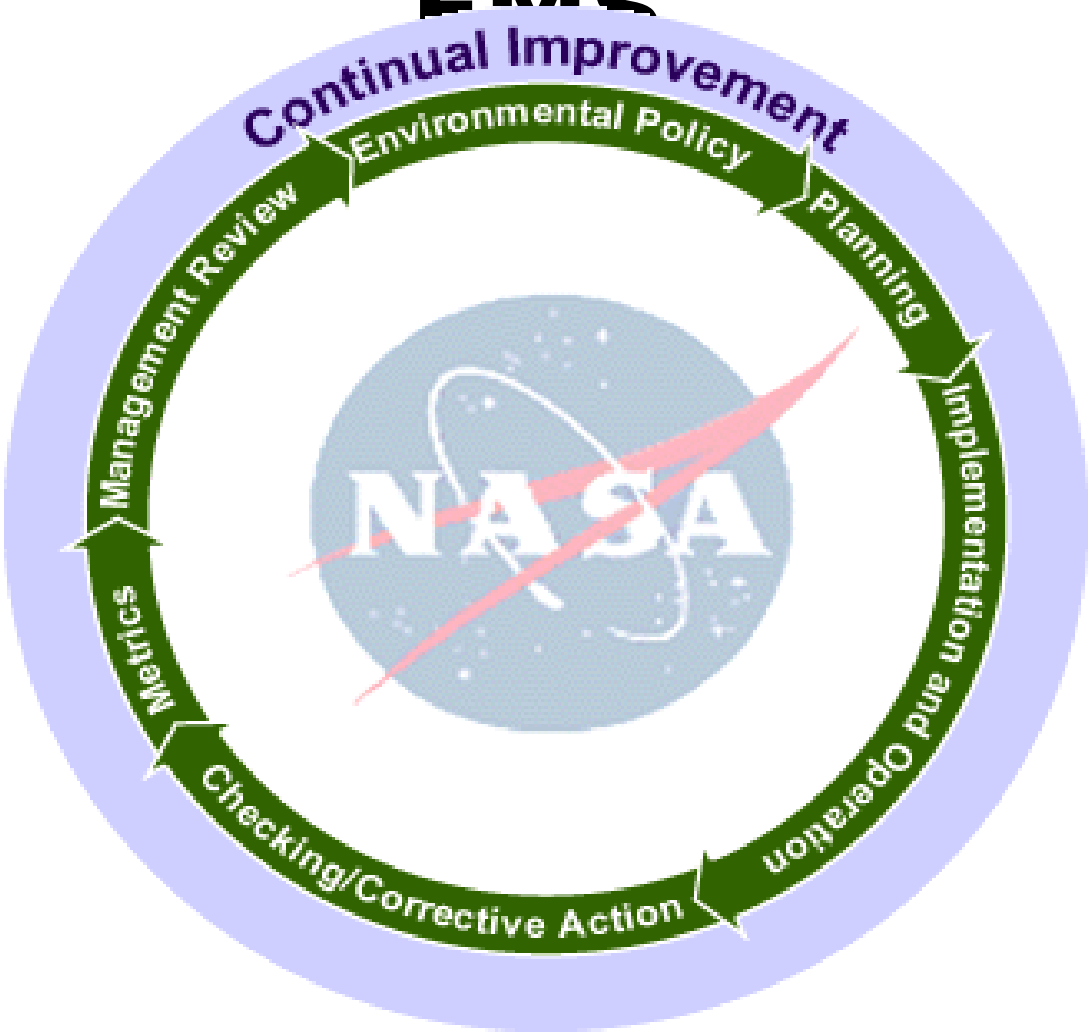


Additional NASA sites: Deep Space Network (New Mexico, Spain, Australia); Western Operations Support (Palmdale, CA); other miscellaneous sites.

EMS Challenges

- **Quantifying Costs and Benefits**
  - Building a business case for EMS
  - Lag between investment and return
- **Needs Vary Across Centers**
  - Mixed reception to third party certification
  - Variation in maturity of existing approaches
  - Campus style operations to industrial scale (NASA has every aspect in the Solar System)
- **What is the Right Level of Consistency Versus Flexibility?**
  - Aspects and Impacts
  - Environmental Functional Review (EFR) process

Elements of the NASA EMS



EMS Development Activities

- **Development of Agency EMS Manual in 1999 - 2001**
  - **Developed by NASA team from five Centers and piloted at three**
  - **Consistent but flexible Agency approach**
- **Development of Center Implementation Guide –2000 - 2001**
  - **Step-by-step approach to implementation**
  - **Sharing of lessons learned**
- **Cost and Benefits Report - 2001**
- **8 of 16 facilities completed EMS as of 2003, goal is to complete remainder in 2004**
- **Review of NASA EMS governing documentation underway in 2004**

Building Blocks

NASA EMS Website

- **In support of NASA's EMS, a public web site was created. http://www.hq.nasa.gov/office/codej/codeje/je_site/ems/about_ems.html**
- **Provides general descriptive information and links to background documentation.**
- **Serves as a means of communication with individuals and organizations outside of NASA.**
- **Is a resource of EMS information for NASA staff and contractors.**

NASA Environmental Management Division | Environmental Management Systems - Microsoft Internet Explorer provided by ICF Consultin

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Address http://www.hq.nasa.gov/office/codej/codeje/je_site/ems/about_ems.html Go Links

NASA Environmental Management Division

Environmental Management System

"Enabling environmentally sound mission success"

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- Implementation
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- Related Topics and Links
- Return to: Topics
- Return to: Center Environmental Websites
- Return to: HQ Environmental Home
- Director: Olga Dominguez

NASA is committed to operating with the environment in mind, as indicated by part of the NASA mission statement, to "understand and protect our home planet." To facilitate accomplishment of this mission and to fulfill the requirements of E.O. 13148, entitled Greening the Government Through Leadership in Environmental Management, NASA is implementing Environmental Management Systems (EMS) at appropriate NASA Centers. NASA's EMS provides an important tool for assisting NASA to achieve environmental accountability and sustainability.

To assist the NASA Centers with implementation of the EMS, NASA created the EMS Implementation Guide. The Guide is not a requirement but does provide working ideas, examples of schedules, and implementation planning aids.

For additional information about NASA's EMS program, please contact the NASA EMS Lead at the following address:

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Internet

EMS Awareness Video/CD

- **A computer based training package that describes the NASA EMS.**
- **Provides an overview of the elements of the NASA EMS, with a short quiz at the end.**
- **The training package can track which individuals have completed the package and quiz.**

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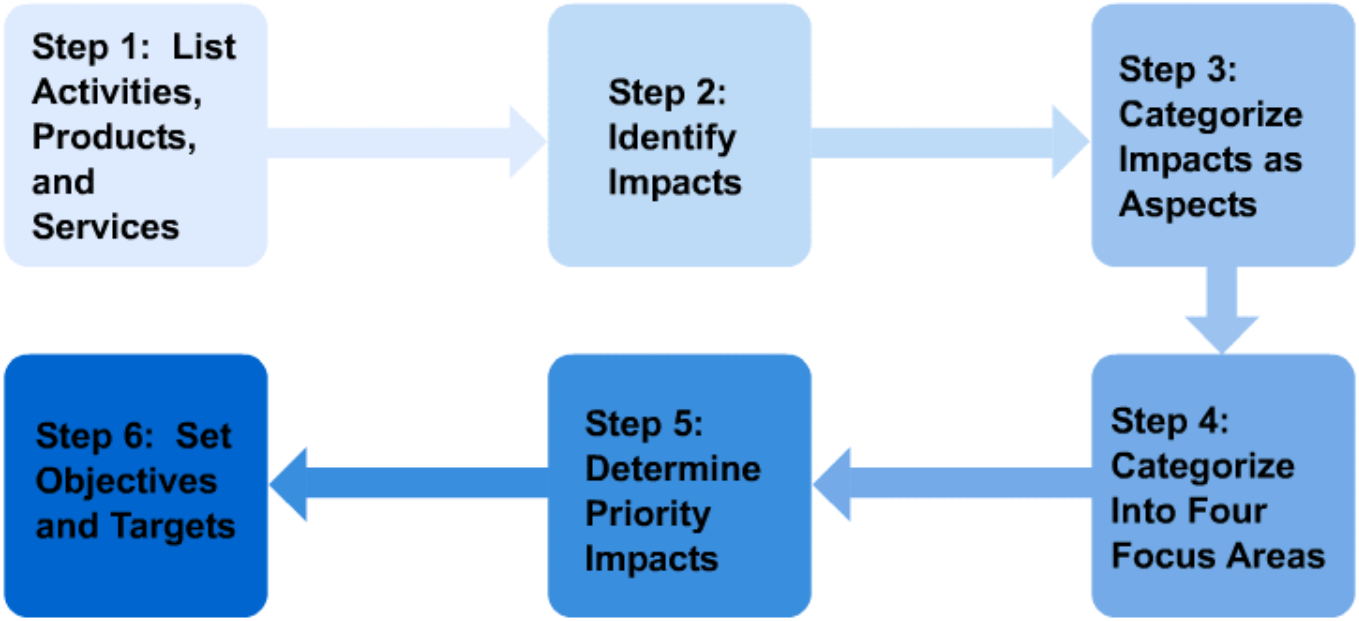
PLAN

Step 6

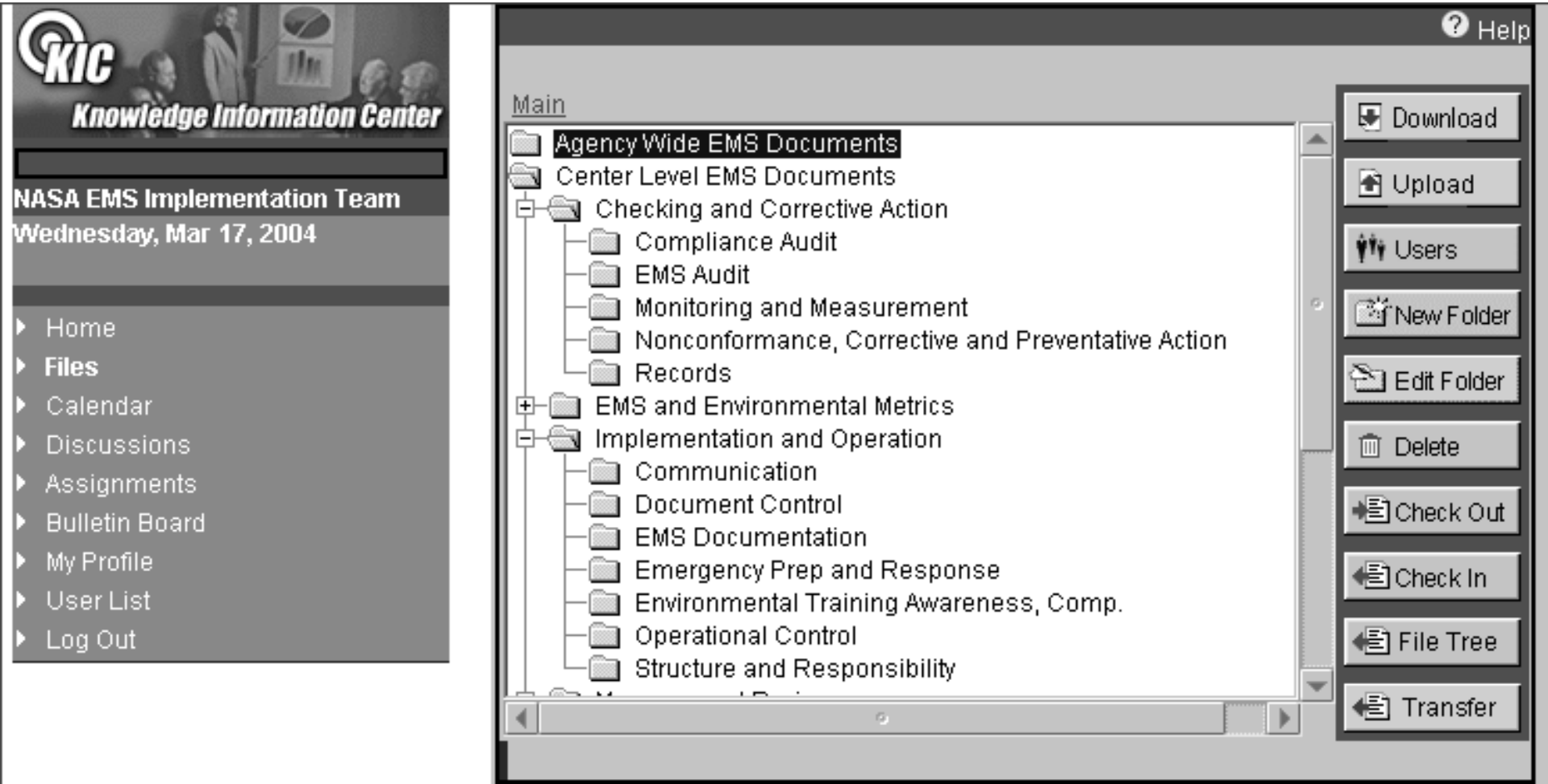
Once priority has been assigned to each impact, Centers determine which activities require *objectives* and *targets*. Centers must manage *high priority impacts* with objectives and targets but are free to set additional objectives and targets at their discretion. Objectives and targets should be technically feasible and economically reasonable.


Step 1: List Activities, Products, and Services
Step 2: Identify Impacts
Step 3: Categorize Impacts as Aspects
Step 4: Categorize Into Four Focus Areas
Step 5: Determine Priority Impacts
Step 6: Set Objectives and Targets

Knowledge Information Center

- An internal (NASA only), secure web based EMS Knowledge Information Center (KIC).
- Allows NASA Centers and Agency level staff to view NASA wide information as well as Center level documentation.
- Group members can use calendar functions, electronic discussion groups in addition to its document management functions.
- EMS guidance, Center level procedures, sample presentations and meeting notes are available.

Knowledge Information Center



Environmental Functional Reviews (EFR)

- **NASA has implemented an Agency level EMS and environmental compliance review progress.**
- **Reviews the status of EMS and overall environmental compliance at all NASA Centers on a 3-year rotating basis.**
- **The first 3-year cycle was completed in 2003.**
- **These reviews are designed to provide:**
  - Information on the NASA wide state of EMS and environmental compliance
  - Assistance and input at the Center level.

EMS Portion of EFR

- **The program includes a Standard Operating Procedure (SOP) and a detailed EMS Checklist.**
- **Referenced by the Office of the Federal Environmental Executive (OFEE) in the EMS Self-Declaration Protocol, as examples for use.**
- **Environmental Management System (EMS) review based on NASA EMS Procedural Requirements**
  - Designed to meet future milestones of EO 13148, as well as ISO 14001.
  - Discretion provided for developing programs, equivalency in programs, and other issues.

Ranking EMS Findings

- **Conformant**
  - Activities that fully meet the requirements of the NASA EMS.
- **Nonconformance**
  - Activities which do not meet the requirements of the current NASA policies and regulations.
- **Significant Nonconformance**
  - Nonconformance requiring immediate attention & mitigation.
- **In Progress**
  - This rating reflects items which may meet existing environmental requirements, but does not fully meet the requirements of the NASA EMS.
  - Represents a de facto “gap analysis” for the NASA EMS.

Continual Improvement

- **The NASA EMS model allows for flexibility in the priorities that are established and the means by which each EMS is deemed complete.**
- **Proposed revisions to the NASA EMS Manual will include a Self-Declaration Process.**
- **NASA will provide guidance regarding third party (State, EPA or ISO level) recognition programs.**

Continual Improvement

- **Revised governing documentation being streamlined to core requirements only (goal is 50% reduction in core text).**
- **EMS Operations and Maintenance Guidance being developed for long term continual improvement.**
- **Focus of the EFR process “Round 2”, starting in 2004, will shift from assessment to evaluation of how the EMS functions as a learning system.**

- **As NASA evolves over time, so must the EMS.**

Points-Of-Contact

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